



BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XC107

Takes of Marine Mammals Incidental to Specified Activities; Piling and Fill Removal in Woodard Bay Natural Resources Conservation Area, Washington

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; proposed incidental harassment authorization; request for comments.

SUMMARY: NMFS has received an application from the Washington State Department of Natural Resources (DNR) for an incidental harassment authorization (IHA) to take marine mammals, by harassment, incidental to restoration activities within the Woodard Bay Natural Resources Conservation Area (NRCA). Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an IHA to the DNR to incidentally take harbor seals, by Level B harassment only, during the specified activity.

DATES: Comments and information must be received no later than [insert date 30 days after date of publication in the FEDERAL REGISTER].

ADDRESSES: Comments on the application should be addressed to Michael Payne, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910. The mailbox address for providing email comments is ITP.Laws@noaa.gov. NMFS is not responsible for e-mail comments sent to addresses other than the one provided here. Comments sent via e-mail, including all attachments, must not exceed a 10-megabyte file size.

Instructions: All comments received are a part of the public record and will generally be posted to <http://www.nmfs.noaa.gov/pr/permits/incidental.htm> without change. All Personal Identifying Information (e.g., name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

An electronic copy of the application, a list of the references used in this document, and other supplemental documents may be obtained by writing to the address specified above, telephoning the contact listed below (see FOR FURTHER INFORMATION CONTACT), or visiting the internet at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. Documents cited in this notice may also be viewed, by appointment, during regular business hours, at the aforementioned address.

FOR FURTHER INFORMATION CONTACT: Ben Laws, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is published in the Federal Register to provide public notice and initiate a 30-day comment period.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact

on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined ‘negligible impact’ in 50 CFR 216.103 as "...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival."

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the United States can apply for an authorization to incidentally take small numbers of marine mammals by Level B harassment as defined below. Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny the authorization. If authorized, the IHA would be effective for one year from date of issuance.

Except with respect to certain activities not pertinent here, the MMPA defines ‘harassment’ as: “any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].”

Summary of Request

On May 18, 2012, we received an application from the DNR for an IHA for the taking, by Level B harassment only, of small numbers of harbor seals (*Phoca vitulina*) incidental to activities conducted in association with an ongoing habitat restoration project within the

Woodard Bay NRCA, Washington. DNR was first issued an IHA that was valid from November 1, 2010, through February 28, 2011 (75 FR 67951), and was subsequently issued a second IHA that was valid from November 1, 2011, through February 28, 2012 (76 FR 67419). Restoration activity planned for 2012-13, depending upon final funding, includes removal of fill and associated materials in Woodard Bay and Chapman Bay and removal of creosote pilings and structure in Chapman Bay. Pilings would be removed by vibratory hammer extraction methods or by direct pull with cables. The superstructure materials would be removed by excavator and/or cables suspended from a barge-mounted crane. The proposed activities would occur only between November 1 through March 15 (2012-13), and could require a maximum total of approximately 70 days.

Description of the Specified Activity

The Woodard Bay NRCA, located within Henderson Inlet in southern Puget Sound, was designated by the Washington State Legislature in 1987 to protect a large, intact complex of nearshore habitats and related biological communities, and to provide opportunities for low-impact public use and environmental education for the people of Washington. The site includes the former Weyerhaeuser South Bay Log Dump, which operated from the 1920s until the 1980s. The remnant structures from the log dump, including several hundred creosoted timber pilings and a trestle and pier and associated fill, continue to negatively impact nearshore ecosystems protected by the conservation area. Therefore, the DNR has begun restoration activities in the NRCA to remove these dilapidated structures in order to enhance ecological structure and function as well as low-impact public use.

However, certain remnant log booms are not planned for removal – and, in fact, have been maintained – due to their function as habitat for harbor seals. These few remnant log boom

structures have been utilized as haul-out habitat for resting, pupping and molting for more than 30 years, and play an important role in supporting a healthy population of harbor seals. Seals concentrate and primarily haul out at only two locations within the NRCA (see figures in DNR's application and Monitoring Report).

These two different haul-out sites within NRCA are referred to as the north and south sites. The north site, located adjacent to the northern tip of the Chapman Bay Pier, is composed of several rows of log booms fastened to creosoted pilings. The south site, located east of the Chapman Bay Pier in the main operational area of the log dump, is composed of six log boom rows and one floating platform attached to creosoted pilings. The booms are utilized year-round by harbor seals of all ages and are ideal for harbor seal pupping due to easy access to water escape routes and the low platform for pups to get in and out of the water (Calambokidis et al., 1991; Lambourn et al., 2007). In recent years, the log boom haul-out area has decreased significantly because logs have decayed, sunk, or floated away (Lambourn et al., 2007), and attempts have been made to re-establish some of the lost haul-out area. These booms are situated in the vicinity of the piles and structure planned for removal. The DNR anticipates harbor seals may flush into the water upon crew arrival and onset of fill removal and pile and structure removal activities; hence, harbor seals may be behaviorally harassed during these activities. The DNR is thus requesting an IHA to take harbor seals, by Level B harassment only, incidental to the specified restoration activities. The proposed activities may result in behavioral disturbance of seals due to noise or visual stimuli from the vibratory hammer, work vessels, heavy equipment onshore, or work crews.

Proposed restoration activities requested under the IHA are funding dependent. They include all or part of the following:

1. Fill Removal

- Remove 13,000 yd³ of fill from Woodard Bay
- Remove 325 yd³ of fill from Chapman Bay
- Remove associated creosoted timber, pilings, metal scraps and concrete abutment

2. Piling and Structure Removal

- Remove 10,000 ft² of pier superstructure and 470 pilings from Chapman Bay Pier
- Remove 30 anchor piles from Chapman Bay

Fill removal from Woodard and Chapman Bays would be accomplished from the uplands by heavy equipment and haul trucks. The creosoted pilings in the fill would be removed from the uplands by a crane-mounted vibratory hammer. This portion of the project is estimated to take approximately 12-14 weeks to complete. The majority of fill removal work is located in Woodard Bay, which is separated from the harbor seal haul-out areas (located in Chapman Bay) by land. This work would likely result in less disturbance of harbor seals than would the work located in Chapman Bay. In addition, the material to be removed would be hauled offsite by the contractor via Whitham Road, which is the main road into the NRCA and which leads away from the haul-out area (see Figure 4 of DNR's application). Fill removal would largely occur above the Ordinary High Water Mark. Fill removal activities may occur between November 1 and March 15. Chapman Bay fill removal is roughly 250 m from the south haul-out and 975 m from the north haul-out.

Piling and structure removal work would be accomplished by barge and skiffs. The pilings would be removed by vibratory hammer or by direct pull with cables; both methods are suspended from a barge-mounted crane. The vibratory hammer is a large steel device lowered on top of the pile, which then grips and vibrates the pile until it is loosened from the sediment. The

pile is then pulled up by the hammer and placed on a barge. For direct pull, a cable is set around the piling to grip and lift the pile from the sediment. The superstructure materials would be removed by excavator and/or cables suspended from a barge-mounted crane.

Approximately 500 12- to 24-in diameter pilings, along with associated pier superstructure, would be removed near but not directly adjacent to haul-outs. After vibration, a choker is used to lift the pile out of the water where it is placed on the barge for transport to an approved disposal site. Pilings that cannot be removed by hammer or cable, or that break during extraction, would be recorded via GPS for divers to relocate at the final phase of project activities. The divers would then cut the pilings at or below the mudline using underwater chainsaws. Operations would begin on the pilings and structures that are furthest from the seal haul-out so that there is an opportunity for the seals to adjust to the presence of the contractors and their equipment. Vibratory extraction operations may occur between November 1 and January 15 and are expected to occur for approximately 20 days over the course of this work window. Other work days would be spent removing pier superstructure, which does not involve vibratory extraction, but has the potential to result in behavioral harassment due to the proximity to working crew. The portion of the Chapman Bay Pier that would be removed is approximately 100 m from the south haul-out area and 250 m from the north haul out.

Description of Marine Mammals in the Area of the Specified Activity

Harbor seals are the only marine mammal regularly found within the action area. Two Steller sea lions (Eumetopias jubatus) were observed, at a distance, swimming in Henderson Inlet during site restoration activities in 2010. There have been very few sightings of Steller sea lions in Henderson Inlet, and none were observed during subsequent restoration activities in 2011. They do not breed in Puget Sound, do not regularly use the action area, and, as such, are

not likely to be affected by restoration activities. Steller sea lions are not considered further in this document.

Species Description – Harbor seals, which are members of the Phocid family (true seals), inhabit coastal and estuarine waters and shoreline areas from Baja California, Mexico to western Alaska. For management purposes, differences in mean pupping date (i.e., birthing) (Temte, 1986), movement patterns (Jeffries, 1985; Brown, 1988), pollutant loads (Calambokidis et al., 1985) and fishery interactions have led to the recognition of three separate harbor seal stocks along the west coast of the continental U.S. (Boveng, 1988). The three distinct stocks are: (1) inland waters of Washington (including Hood Canal, Puget Sound, and the Strait of Juan de Fuca out to Cape Flattery), (2) outer coast of Oregon and Washington, and (3) California (Carretta et al., 2007). The inland waters of Washington stock is the only stock that may occur within the project area.

The average weight for adult seals is about 180 lb (82 kg) and males are slightly larger than females. Male harbor seals weigh up to 245 lb (111 kg) and measure approximately 5 ft (1.5 m) in length. The basic color of harbor seals' coat is gray and mottled but highly variable, from dark with light color rings or spots to light with dark markings (NMFS, 2008).

Population Abundance – Estimated population numbers for the inland waters of Washington, including the Hood Canal, Puget Sound, and the Strait of Juan de Fuca out to Cape Flattery, have been most recently estimated at 14,612 individuals (Carretta et al., 2007). However, because the most recent abundance estimate is greater than 8 years old, there is no current estimate of abundance. Between 1983 and 1996, the annual rate of increase for this stock was 6 percent (Jeffries et al., 1997). Based on this information and trends of other harbor seal stocks, the current abundance estimate is likely an underestimate. Based on the analyses of

Jeffries et al. (2003) and Brown et al. (2005), both the Washington and Oregon coastal harbor seal stock have reached carrying capacity and are no longer increasing. Harbor seals are not listed as depleted nor considered strategic under the MMPA or as endangered or threatened under the Endangered Species Act (ESA). The stock is within its Optimum Sustainable Population level (Jeffries et al., 2003). Harbor seals are considered the most abundant resident pinniped species in Puget Sound (Lance and Jeffries, 2009).

The harbor seal population within the NRCA is considered one of the healthier ones in southern Puget Sound. Seal numbers have been monitored at the site since 1977, when there were less than 50 seals. In 1996, the highest count year, there were 600 seals. The average maximum annual count between 1977 and 2008 was 315 seals (Buettner et al., 2008). Annual seal counts end by October and numbers of individuals decline throughout the winter. From 2006 to 2009, October counts averaged 171 and ranged between 79 and 275 (Lambourn, 2010).

Distribution – Harbor seals are coastal species, rarely found more than 12 mi (20 km) from shore, and frequently occupy bays, estuaries, and inlets (Baird, 2001). Individual seals have been observed several miles upstream in coastal rivers. Ideal harbor seal habitat includes haul-out sites, shelter during the breeding periods, and sufficient food (Bjørge, 2002). Haul-out areas can include intertidal and subtidal rock outcrops, sandbars, sandy beaches, peat banks in salt marshes, and man-made structures such as log booms, docks, and recreational floats (Wilson, 1978; Prescott 1982; Schneider and Payne, 1983; Gilber and Guldager, 1998; Jeffries et al., 2000). Human disturbance can affect haul-out choice (Harris et al., 2003).

Behavior and Ecology – Harbor seals are typically seen in small groups resting on tidal reefs, boulders, mudflats, man-made structures, and sandbars. Harbor seals are opportunistic feeders that adjust their patterns to take advantage of locally and seasonally abundant prey

(Payne and Selzer, 1989; Baird, 2001; Bjørge, 2002). The harbor seal diet consists of fish and invertebrates (Bigg, 1981; Roffe and Mate, 1984; Orr et al., 2004). Although harbor seals in the Pacific Northwest are common in inshore and estuarine waters, they primarily feed at sea (Orr et al., 2004) during high tide. Researchers have found that they complete both shallow and deep dives during hunting depending on the availability of prey (Tollit et al., 1997). Their diet in Puget Sound consists of common prey resources such as hake, herring and adult and out-migrating juvenile salmonids.

Harbor seals mate at sea and females give birth during the spring and summer, although the pupping season varies by latitude. In coastal and inland regions of Washington, pups are born from April through January. Pups are generally born earlier in the coastal areas and later in inland waters (Calambokidis and Jeffries, 1991; Jeffries et al., 2000). Suckling harbor seal pups spend as much as forty percent of their time in the water (Bowen et al., 1999).

The remnant log booms at the Woodard Bay NRCA support a year-round population of harbor seals, which use the boom structures for haul-out habitat to rest, pup, and molt in two primary locations; to the east and to the north of the Chapman Bay Pier (see Figure 4 in DNR's application). Haul-out behavior is shown to be affected by time of day and tide cycle, as well as factors related to seasonal weather patterns such as air temperature, wind speed, cloud cover, and sea conditions (Buettner et al., 2008). Annually, use of the log booms peaks from July, when females haul out to give birth to their pups, through October, during the late pupping season and molt (WA DNR, 2002).

Acoustics – In air, harbor seal males produce a variety of low-frequency (less than 4 kHz) vocalizations, including snorts, grunts, and growls. Male harbor seals produce communication sounds in the frequency range of 100-1,000 Hz (Richardson et al., 1995). Pups make individually

unique calls for mother recognition that contain multiple harmonics with main energy below 0.35 kHz (Bigg, 1981; Thomson and Richardson, 1995). Harbor seals hear nearly as well in air as underwater and had lower thresholds than California sea lions (*Zalophus californianus*) (Kastak and Schusterman, 1998). Kastak and Schusterman (1998) reported airborne low frequency (100 Hz) sound detection thresholds at 65.4 dB re: 20 μ Pa for harbor seals. In air, they hear frequencies from 0.25-30 kHz and are most sensitive from 6-16 kHz (Richardson, 1995; Terhune and Turnbull, 1995; Wolski et al., 2003).

Adult males also produce underwater sounds during the breeding season that typically range from 0.25-4 kHz (duration range: 0.1 s to multiple seconds; Hanggi and Schusterman, 1994). Hanggi and Schusterman (1994) found that there is individual variation in the dominant frequency range of sounds between different males, and Van Parijs et al. (2003) reported oceanic, regional, population, and site-specific variation that could be vocal dialects. In water, they hear frequencies from 1-75 kHz (Southall et al., 2007) and can detect sound levels as weak as 60-85 dB re: 1 μ Pa within that band. They are most sensitive at frequencies below 50 kHz; above 60 kHz sensitivity rapidly decreases.

Potential Effects on Marine Mammals

Potential effects of DNR's proposed activities are likely to be limited to behavioral disturbance resulting from visual stimuli of seals at the two described log boom haul-outs. Other potential disturbance could result from the introduction of sound into the environment as a result of pile removal activities; however, this is unlikely to cause an appreciably greater amount of harassment in either numbers or degree, in part because it is anticipated that most seals would be disturbed initially by physical presence of crews, vessels, or heavy equipment or by sound from vessels.

There is a general paucity of data on sound levels produced by vibratory extraction of timber piles; however, it is reasonable to assume that extraction would not result in higher sound pressure levels (SPLs) than vibratory installation of piles. As such, we assume that source levels from the proposed activity would not be as high as average source levels for vibratory installation of 12- to 24-in steel piles (155-165 dB; Caltrans, 2009). Our general in-water harassment thresholds for pinnipeds exposed to continuous noise, such as that produced by vibratory pile extraction, are 190 dB root mean square (rms) re: 1 μ Pa as the potential onset of Level A (injurious) harassment and 120 dB RMS re: 1 μ Pa as the potential onset of Level B (behavioral) harassment. These levels are considered precautionary and we are currently revising these thresholds to better reflect the most recent scientific data.

Vibratory extraction would not result in sound levels near 190 dB; therefore, injury would not occur. However, underwater noise from vibratory extraction would likely exceed 120 dB in the vicinity of the haul-outs and may induce responses in-water such as avoidance or other alteration of behavior at time of exposure. However, seals flushing from haul-outs in response to small vessel activity and the presence of work crews would already be considered as ‘harassed’. We only consider a single incidence of harassment per individual in any given 24-hour period; therefore, additional incidents that may occur to the same individual from different stimuli are not considered additional takes.

The airborne sound disturbance criteria for Level A harassment is 90 dB RMS re: 20 μ Pa for harbor seals. Based on information on airborne source levels measured for pile driving with vibratory hammer, removal of wood piles is unlikely to exceed 90 dB (WA DNR, 2011); further, the vibratory hammer would be outfitted with a muffling device ensuring that airborne SPLs are

no higher than 80 dB. Potential effects of the action on harbor seals are detailed in the following text.

Behavioral Disturbance

Disturbance can result in a variety of effects, such as subtle or dramatic changes in behavior or displacement. Behavioral reactions of marine mammals are difficult to predict because they are dependent on numerous factors, including species, maturity, experience, activity, reproductive state, time of day, and weather. If a marine mammal does react to a stimulus by changing its behavior or moving a small distance, the impacts of that change may not be important to the individual, the stock, or the species as a whole. However, if marine mammals are displaced from an important feeding or breeding area for a prolonged period, impacts on the animals could be important. In general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing stimuli than do cetaceans, and generally seem to be less responsive to exposure to industrial sound than most cetaceans.

Because the few available studies show wide variation in response to stimuli, pinniped responses are difficult to quantify. The literature shows that a range of effects are possible, including no obvious visible response, or behavioral responses that may include annoyance and increased alertness, visual orientation towards the stimulus, investigation of the stimulus, change in movement pattern or direction, habituation, alteration of feeding and social interaction, or temporary or permanent avoidance of the affected area. Minor behavioral responses do not necessarily cause long-term effects to the individuals involved. Severe responses include panic, immediate movement away from the stimulus, and stampeding, which could potentially lead to injury or mortality (Southall et al., 2007).

In their comprehensive review of available literature, Southall et al. (2007) reported that the limited data suggest exposures between approximately 90 and 140 dB generally do not appear to induce strong behavioral responses in pinnipeds, while higher levels of pulsed sound, ranging between 150 and 180 dB, will prompt avoidance of an area. For airborne sound Southall et al. (2007) note there is extremely limited data suggesting very minor, if any, observable behavioral responses by pinnipeds exposed to airborne pulses of 60 to 80 dB.

Southall et al. (2007) noted that quantitative studies on behavioral reactions of pinnipeds to sound are rare, but described the following:

- Harris et al. (2001) observed the response of ringed (Pusa hispida), bearded (Erignathus barbatus), and spotted seals (Phoca largha) to underwater operation of a single air gun and an eleven-gun array. Received exposure levels were 160 to 200 dB. In some instances, seals exhibited no response to sound.
- Blackwell et al. (2004) observed ringed seals during impact installation of steel pipe pile. Received underwater SPLs were measured at 151 dB at 63 m. The seals exhibited either no response or only brief orientation response (defined as “investigation or visual orientation”).
- In addition, Blackwell et al. (2004) studied the response of ringed seals within 500 m of impact driving of steel pipe pile to airborne sound. Received levels of airborne sound were measured at 93 dB at a distance of 63 m. Seals had either no response or limited response to pile driving. Reactions were described as “indifferent” or “curious.”
- Miller et al. (2005) observed responses of ringed and bearded seals to a seismic air gun array. Received underwater sound levels were estimated at 160 to 200 dB. There were fewer seals present close to the sound source during air gun operations in the first year, but in the

second year the seals showed no avoidance. In some instances, seals were present in very close range of the sound. The authors concluded that there was “no observable behavioral response” to seismic air gun operations.

Jacobs and Terhune (2002) observed harbor seal reactions to acoustic harassment devices (AHDs) with source level of 172 dB deployed around aquaculture sites. Seals were generally unresponsive to sounds from the AHDs. During two specific events, individuals came within 141 and 144 ft (43 and 44 m) of active AHDs and failed to demonstrate any measurable behavioral response; estimated received levels based on the measures given were approximately 120 to 130 dB.

Kastelein et al. (2006) exposed nine captive harbor seals in an approximately 82×98 ft (25×30 m) enclosure to non-pulse sounds used in underwater data communication systems (similar to acoustic modems). Test signals were frequency modulated tones, sweeps, and bands of sound with fundamental frequencies between 8 and 16 kHz; 128 to 130 ± 3 dB source levels; 1- to 2-s duration (60-80 percent duty cycle); or 100 percent duty cycle. They recorded seal positions and the mean number of individual surfacing behaviors during control periods (no exposure), before exposure, and in 15-min experimental sessions ($n = 7$ exposures for each sound type). Seals generally swam away from each source at received levels of approximately 107 dB, avoiding it by approximately 16 ft (5 m), although they did not haul out of the water or change surfacing behavior. Seal reactions did not appear to wane over repeated exposure (i.e., there was no obvious habituation), and the colony of seals generally returned to baseline conditions following exposure. The seals were not reinforced with food for remaining in the sound field.

Reactions of harbor seals to the simulated sound of a 2-megawatt wind power generator were measured by Koschinski et al. (2003). Harbor seals surfaced significantly further away

from the sound source when it was active and did not approach the sound source as closely. The device used in that study produced sounds in the frequency range of 30 to 800 Hz, with peak source levels of 128 dB at 1 m at the 80- and 160-Hz frequencies.

Vessel sounds do not seem to have strong effects on seals in the water, but the data are limited. When in the water, seals appear to be much less apprehensive about approaching vessels. Some would approach a vessel out of apparent curiosity, including noisy vessels such as those operating seismic airgun arrays (Moulton and Lawson, 2002). Gray seals (Halichoerus grypus) have been known to approach and follow fishing vessels in an effort to steal catch or the bait from traps. In contrast, seals hauled out on land often are quite responsive to nearby vessels. Terhune (1985) reported that northwest Atlantic harbor seals were extremely vigilant when hauled out and were wary of approaching (but less so passing) boats. Suryan and Harvey (1999) reported that Pacific harbor seals commonly left the shore when powerboat operators approached to observe the seals. Those seals detected a powerboat at a mean distance of 866 ft (264 m), and seals left the haul-out site when boats approached to within 472 ft (144 m).

Hearing Impairment and Other Physiological Effects

Temporary or permanent hearing impairment is a possibility when marine mammals are exposed to very strong sounds. Hearing impairment is measured in two forms: temporary threshold shift (TTS) and permanent threshold shift (PTS). PTS is considered injurious whereas TTS is not, as it is temporary and hearing is fully recoverable. Non-auditory physiological effects might also occur in marine mammals exposed to strong underwater sound. Possible types of non-auditory physiological effects or injuries that may occur in mammals close to a strong sound source include stress, neurological effects, bubble formation, and other types of organ or tissue damage. It is possible that some marine mammal species (i.e., beaked whales) may be

especially susceptible to injury and/or stranding when exposed to strong pulsed sounds, particularly at higher frequencies. Neither auditory nor non-auditory physiological effects are anticipated to occur as a result of DNR activities.

PTS is presumed to be likely if the hearing threshold is reduced by more than 40 dB (i.e., 40 dB of TTS). Due to the low source levels produced by vibratory extraction, NMFS does not expect that marine mammals will be exposed to levels that could elicit PTS; therefore, it will not be discussed further. The following subsection discusses in somewhat more detail the possibilities of TTS.

TTS – TTS, reversible hearing loss caused by fatigue of hair cells and supporting structures in the inner ear, is the mildest form of hearing impairment that can occur during exposure to a strong sound (Kryter, 1985). While experiencing TTS, the hearing threshold rises and a sound must be stronger in order to be heard. TTS can last from minutes or hours to (in cases of strong TTS) days. For sound exposures at or somewhat above the TTS threshold, hearing sensitivity in both terrestrial and marine mammals recovers rapidly after exposure to the sound ends.

We consider TTS to be a form of Level B harassment rather than injury, as it consists of fatigue to auditory structures rather than damage to them. Pinnipeds have demonstrated complete recovery from TTS after multiple exposures to intense sound, as described in the studies below (Kastak et al., 1999, 2005). The 190-dB injury criterion is not considered to be the level above which TTS might occur. Rather, it is the received level above which, in the view of a panel of bioacoustics specialists convened before TTS measurements for marine mammals became available, one could not be certain that there would be no injurious effects, auditory or otherwise, to pinnipeds. Few data on sound levels and durations necessary to elicit mild TTS have been

obtained for marine mammals, and none of the published data concern TTS elicited by exposure to multiple pulses of sound.

Human non-impulsive sound exposure guidelines are based on exposures of equal energy (the same sound exposure level [SEL]; SEL is reported here in dB re: 1 $\mu\text{Pa}^2\text{-s}$ /re: 20 $\mu\text{Pa}^2\text{-s}$ for in-water and in-air sound, respectively) producing equal amounts of hearing impairment regardless of how the sound energy is distributed in time (NIOSH, 1998). Until recently, previous marine mammal TTS studies have also generally supported this equal energy relationship (Southall *et al.*, 2007). Three newer studies, two by Mooney *et al.* (2009a,b) on a single bottlenose dolphin (*Tursiops truncatus*) exposed to either playbacks of U.S. Navy mid-frequency active sonar or octave-band sound (4-8 kHz) and one by Kastak *et al.* (2007) on a single California sea lion exposed to airborne octave-band sound (centered at 2.5 kHz), concluded that for all sound exposure situations, the equal energy relationship may not be the best indicator to predict TTS onset levels. Generally, with sound exposures of equal energy, quieter sounds (lower SPL) of longer duration were found to induce TTS onset more than louder sounds (higher SPL) of shorter duration. Given the available data, the received level of a single seismic pulse (with no frequency weighting) might need to be approximately 186 dB SEL in order to produce brief, mild TTS.

There are few known studies conducted on pinniped TTS responses to non-pulsed underwater or airborne sound. The first three studies described in the following text were performed in the same lab and on the same test subjects, and, therefore, the results may not be applicable to all pinnipeds or in field settings.

- Kastak and Schusterman (1996) studied the response of harbor seals to non-pulsed construction sound, reporting TTS of about 8 dB.

- Kastak et al. (1999) reported TTS of approximately 4-5 dB in three species of pinnipeds (harbor seal, California sea lion, and northern elephant seal [Mirounga angustirostris]) after underwater exposure for approximately 20 minutes to sound with frequencies ranging from 100-2,000 Hz at received levels 60-75 dB above hearing threshold. This approach allowed similar effective exposure conditions to each of the subjects, but resulted in variable absolute exposure values depending on subject and test frequency. Recovery to near baseline levels was reported within 24 hours of sound exposure.

- Kastak et al. (2005) followed up on their previous work, exposing the same test subjects to higher levels of sound for longer durations. The animals were exposed to octave-band sound for up to 50 minutes of net exposure. The study reported that the harbor seal experienced TTS of 6 dB after a 25-minute exposure to 2.5 kHz of octave-band sound at 152 dB (183 dB SEL).

- Bowles et al. (unpubl. data) exposed pinnipeds to simulated sonic booms (airborne sound). Harbor seals demonstrated TTS at 143 dB peak and 129 dB SEL.

- Kastak et al. (2004) used the same test subjects as in Kastak et al. (2005), exposing the animals to non-pulsed airborne sound (2.5 kHz octave-band sound) for 25 minutes. The harbor seal demonstrated 6 dB of TTS after exposure to 99 dB (131 dB SEL).

The sound level necessary to cause TTS in pinnipeds depends on exposure duration; with longer exposure, the level necessary to elicit TTS is reduced (Schusterman et al., 2000; Kastak et al., 2005,2007). The literature has not drawn conclusions on levels of underwater non-pulsed sound (e.g., vibratory pile removal) likely to cause TTS. Although underwater sound levels produced by the DNR project may be approximately equal to the lower end of sound levels produced in studies that have induced TTS in pinnipeds, there is a general lack of controlled,

quantifiable field studies related to this phenomenon, existing studies have had varied results, and there are no universally accepted standards for the amount of exposure time likely to induce TTS (Southall et al., 2007).

While it may be inferred that TTS could theoretically result from the DNR project, it is highly unlikely, due to the source levels and duration of exposure possible. In summary, it is expected that elevated sound will have only a negligible probability of causing TTS in individual seals. Further, seals are likely to be disturbed via the approach of work crews and vessels long before the beginning of any pile removal operations and would be apprised of the advent of increased underwater sound via the soft start of the vibratory hammer. It is not expected that airborne sound levels would induce any form of behavioral harassment, much less TTS in individual pinnipeds.

The DNR and other organizations, such as the Cascadia Research Collective, have been monitoring the behavior of harbor seals present within the NRCA since 1977. Past disturbance observations at Woodard Bay NRCA have shown that seal harassment results from the presence of non-motorized vessels (e.g., recreational kayaks and canoes), motorized vessels (e.g., fishing boats), and people (Calambokidis and Leathery, 1991; Buettner et al., 2008). Calambokidis and Leathery (1991) found that the mean distance that seals entered the water in response to any type of vessel was 56 m. Most commonly seals were disturbed when vessels were 26 to 50 m from the haul-out; however, only at distances greater than 125 m was there a sharp decrease in the proportion of groups disturbed. Seals entered the water in response to people on foot at up to 256 m although, on many occasions, people were able to pass less than 100 m from seals without noticeable disturbance while intentionally maintaining a low profile (Calambokidis and Leathery, 1991). Furthermore, the distances at which seals were disturbed varied significantly

by vessel type; seals entered the water at a greater distance in response to non-motorized vessels as compared to motorized vessels. It is hypothesized that because the latter are more readily detectable than the former, seals are more readily aware of their presence at greater distances and do not react to the same extent upon close approach (Buettner et al., 2008).

Buettner et al. (2008) also noted the difference in vigilance of seals based on float location during pupping season. For example, seals on floats located on the outer edges of the log boom area, which are thus subjected to greater amounts of vessel traffic, were indifferent to vessels unless the vessels came right up to the log booms. Contrarily, seals on the floats located in the central area of the log booms, and hence not exposed to as much traffic, were more vigilant and more sensitive to disturbances. These observations suggest that, while seals are susceptible to anthropogenic disturbance, a certain amount of habituation may occur at these haul-outs.

During emergency maintenance operations on the haul-out in 2008, seals present on the log booms flushed when the vessel first entered the haul-out area, but appeared to become habituated quickly thereafter. Maintenance operations included installation of new log booms to restore habitat. Seals initially flushed in response to onset of work but quickly acclimated to crew presence and would haul out on booms directly adjacent to the small barge used during maintenance. Furthermore, Suryan and Harvey (1991) found that harbor seals hauled-out at Puffin Island, WA, were more tolerant to subsequent harassments than they were to the initial harassment. However, sudden presence of a disturbance source (e.g., kayaker) can induce strong behavioral reactions.

In summary, based on the preceding discussion and on observations of harbor seals during past management activities in Woodard Bay, NMFS has preliminarily determined that

impacts to harbor seals during restoration activities would be limited to behavioral harassment of limited duration and limited intensity (i.e., temporary flushing at most) resulting from physical disturbance. It is anticipated that seals would be initially disturbed by the presence of crew and vessels associated with the habitat restoration project. Seals entering the water following such disturbance could also be exposed to underwater SPLs greater than 120 dB (i.e., constituting harassment); however, given the short duration and low energy of vibratory extraction of 12-24 in timber piles, PTS would not occur and TTS is not likely. Abandonment of any portion of the haul-out is not expected either, as harbor seals have been documented as quickly becoming accustomed to the presence of work crews. During similar activities carried out under the previous IHAs, seals showed no signs of abandonment or of using the haul-outs to a lesser degree.

Anticipated Effects on Habitat

Marine mammal habitat would be temporarily ensonified by low sound levels resulting from habitat restoration effort. The piles designated to be removed have been treated with creosote, a wood preservative that is also toxic to the environment. Removing these piles will have beneficial impacts to the NRCA, including marine mammal habitat, by preventing the leaching of creosote chemicals, including polycyclic aromatic hydrocarbons, into the marine environment. No log booms would be removed; therefore, no impacts to the physical availability of haul-out habitat would occur. Any disturbance to substrate in the NRCA would be localized and of a temporary nature, resulting from the extraction of piles. As such, temporary impacts at most may be expected to the habitat of harbor seal prey species. No prey species are known to utilize the pilings themselves.

Summary of Previous Monitoring

DNR complied with the mitigation and monitoring required under the previous authorizations. In accordance with the 2010-11 IHAs, DNR submitted final monitoring reports, which described the monitoring effort and observations made. DNR has not exceeded authorized levels of take by Level B harassment under the IHAs.

Past IHAs have stipulated that monitoring be conducted on at least 15 days of work, to include times when we considered disturbance to be most likely, such as:

- Initial construction days of the project;
- When the contractors were mobilizing to a new location; and
- When activities were occurring closest to the haul-out areas.

At least one observer was stationed at each of two observation sites, to monitor both haul-out areas, on all monitoring days. Monitoring began 30 minutes prior to the contractor's start time (7 a.m.) and ended 30 minutes after the contractor left the site. Counts were conducted every half hour unless there was a disturbance, in which case another count was conducted. Each of the two haul-outs was counted separately and added together for the total number of seals hauled out. In the event of harassment, observers recorded the nature of the activity, proximity to haul-outs, and the number of seals that flushed into the water (i.e., were harassed). The take number was calculated by subtracting the number of seals hauled out after the disturbance from the most recent count prior to the disturbance.

Harbor seal disturbances were recorded and broken down into disturbance types based on cause of disturbance. Each disturbance was given a code and proximity in meters from haul-outs was recorded (Table 1). Proximity in relation to haul-outs was calculated using satellite imagery. Under the 2010-11 IHA, 356 takes by harassment were observed during the 14 days of observation (Table 1) resulting in a mean of 25 seals disturbed per monitored day. Extrapolating

that average out for all 35 days of restoration activity that occurred provides a total estimated take of 875, less than the authorized take (by Level B harassment) of 1,539. Under the 2011-12 IHA, 172 takes by harassment were observed during the 15 days of observation (Table 1) resulting in a mean of 11 seals disturbed per monitored day. Extrapolating that average out for all 21 days of restoration activity that occurred provides a total estimated take of 231, less than the authorized take (by Level B harassment) of 2,080. These extrapolated estimates may be biased high since monitored days were chosen in part to sample days with activities most likely to disturb seals.

Table 1. Aggregate harbor seal counts and disturbances from two haul-out sites

Date	Year	Start time	Finish time	Conditions	Pre-activity count	Peak daily count	Disturbance code	Proximity to haul-out (m)	Total daily takes
Nov 1	2010	0930	1630	Overcast, rain	8	18	MS, PP	<10	5
Nov 2	2010	0630	1800	Sunny	97	127	DB	>300	69
Nov 9	2010	0630	1800	Overcast, rain	71	72	MS	>160	31
Nov 12	2010	0630	1730	Sunny	67	100	MS, MB	>150	76
Nov 15	2010	0630	1730	Overcast, rain	27	39		>130	0
Nov 16	2010	0630	1700	Overcast, rain	40	54	BC	<250	25
Nov 18	2010	0630	1750	Partly cloudy	8	15	BC	>130	6
Nov 19	2010	0630	1730	Partly cloudy	121	127	MS	>130	34
Nov 22	2010	0630	1730	Partly cloudy, snow	35	37	MS, BC	>130	13
Dec 8	2010	0630	1730	Overcast, rain	1	17		>300	0
Dec 10	2010	0630	1600	Partly cloudy	20	34	BC	>100	30
Dec 16	2010	0630	1730	Sunny	36	41	MS, VH	>100	38
Dec 20	2010	0630	1600	Overcast, rain	0	0		>130	0
Dec 21	2010	0630	1700	Sunny	43	43	MS, DB	>75	29
Nov 16	2011	1200	1430	Fair	1	1			0
Nov 17	2011	0630	1630	Fair	25	34	BC, MS	<500	8
Nov 18	2011	0630	1630	Fair	26	77	BC	<50	4
Nov 21	2011	0630	1630	Rain	0	1			0
Nov 22	2011	0630	1630	Rain, wind	0	0			0
Nov 28	2011	0630	1630	Fair	41	45	BC, MS	<150	44
Nov 29	2011	0630	1630	Fair	19	38			0
Nov 30	2011	0630	1630	Fair	6	6			0
Dec 1	2011	0630	1630	Fair	27	47	BC	<100	21
Dec 2	2011	0630	1630	Fair	25	51			0
Dec 5	2011	1330	1630	Fair	62	62	BC, MS	<250	51
Dec 7	2011	0630	1630	Fair	20	42	MS	<100	7
Dec 8	2011	0630	1630	Fair	1	4			0
Dec 9	2011	0630	1130	Fair	0	0			0
Dec 14	2011	0630	1630	Fair	47	55	MS	<250	37

Activity codes: MS: motorized skiff; BC: Barge/Crane; VH: Vibratory hammer; PR: Pile removal; PP: Pile painting; MB: Mobilize barge; DB: Dive boat

Harbor seals were generally hauled out prior to the work day with the majority of seals at the south haul-out. The construction crew stayed at a distance of over 150 m from the haul-outs when maneuvering back and forth from shore to their barge anchored greater than 150 m offshore from the haul-outs. The seals appeared to be relatively unaffected by the movement of the crane barge at distances greater than 150 m. The majority of incidental harassment takes were caused by the work skiff maneuvering back and forth, despite the distance from the haul-outs. Once the seals entered the water, the majority typically did not return to the haul-out during same-day monitoring effort, although there were never large groups of seals observed in the water after a disturbance. Seals that remained on the haul-out after a disturbance showed no signs of adverse behavior. Given that there have been no dedicated observations at the NRCA during this time of year (i.e., November-February) it is difficult to say whether the decreased number of harbor seals hauled out (as compared with average October counts) was caused by construction activity or seasonal distribution. It is likely, however, that the latter is the case, as November represents the post-breeding and molting period, when harbor seals are less reliant on the haul-outs.

Proposed Mitigation

In order to issue an IHA under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses.

The DNR has proposed to continue mitigation measures, as stipulated in the previous IHAs, designed to minimize disturbance to harbor seals within the action area in consideration of timing, location, and equipment use. Foremost, pile, structure, and fill removal would only occur between November and March, outside of harbor seal pupping and molting seasons. Therefore, no impacts to pups from the specified activity during these sensitive time periods would occur. In addition, the following measures would be implemented:

- The DNR would approach the action area slowly to alert seals to their presence from a distance and would begin pulling piles at the farthest location from the log booms used as harbor seal haul-out areas;
- No piles within 30 yd (27 m) of the two main haul-out locations identified in the IHA application would be removed;
- The contractor or observer would survey the operational area for seals before initiating activities and wait until the seals are at a sufficient distance (i.e., 50 ft [15 m]) from the activity so as to minimize the risk of direct injury from the equipment or from a piling or structure breaking free;
- The DNR would require the contractor to initiate a vibratory hammer soft start at the beginning of each work day; and
- The vibratory hammer power pack would be outfitted with a muffler to reduce in-air noise levels to a maximum of 80 dB.

The soft start method involves a reduced energy vibration from the hammer for the first 15 seconds and then a 30-second waiting period. This method would be repeated twice before commencing with operations at full power.

We considered but rejected one additional mitigation measure, the requirement to conduct a sound source verification study. We have in the past required some applicants to conduct such a study to ensure that the production of increased levels of sound is no greater than the level analyzed in estimating incidental take. However, as described previously in this document, source levels produced by the vibratory hammer would be no greater than 80 dB in-air and are conservatively estimated at approximately 155-165 dB underwater. The underwater source levels would likely be lower, as those are measured levels from installation of steel piles. Underwater source levels from this project would likely be less both because the action is extraction, not installation, and because of the pile material (timber rather than steel). Further, seals exposed to sound greater than 120 dB would likely be previously disturbed by the presence of crews and vessels and by vessel noise. We acknowledge that sound source verification would be preferred; however, the applicant is funding-limited, and the significant expenditure required by such a study would result in a correspondingly lesser amount of restoration work able to be completed. The requirement of a sound source verification study would have limited utility for the harbor seals, would be impracticable for the applicant, and would result in less restoration accomplished. Thus, the end result would likely be a long-term net negative for the harbor seals considered in this document.

We have carefully evaluated the applicant's mitigation measures as proposed and considered their effectiveness in past implementation to preliminarily determine whether they are likely to effect the least practicable adverse impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures includes consideration of the following factors in relation to one another: (1) the manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine

mammals, (2) the proven or likely efficacy of the specific measure to minimize adverse impacts as planned; (3) the practicability of the measure for applicant implementation, including consideration of personnel safety, and practicality of implementation.

Injury, serious injury, or mortality to pinnipeds could likely only result from startling animals inhabiting the haul-out into a stampede reaction. Even in the event that such a reaction occurred, it is unlikely that it would result in injury, serious injury, or mortality, as the activities would occur outside of the pupping season, and access to the water from the haul-outs is relatively easy and unimpeded. However, DNR has proposed to approach haul-outs gradually from a distance, and would begin daily work at the farthest distance from the haul-out in order to eliminate the possibility of such events. During the previous years of work under our authorization, implementation of similar mitigation measures has resulted in no known injury, serious injury, or mortality (other than one event considered atypical and outside the scope of the mitigation measures considered in relation to disturbing seals from the haul-outs). Based upon the DNR's record of management in the NRCA, as well as information from monitoring DNR's implementation of the improved mitigation measures as prescribed under the previous IHAs, we have preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable adverse impacts on marine mammal species or stocks and their habitat.

Proposed Monitoring and Reporting

In order to issue an ITA for an activity, Section 101(a)(5)(D) of the MMPA states that we must set forth "requirements pertaining to the monitoring and reporting of such taking". The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for IHAs must include the suggested means of accomplishing the necessary monitoring and reporting that

will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present.

DNR's proposed monitoring plan adheres to protocols already established for Woodard Bay to the maximum extent practical for the specified activity. Monitoring of both the north and south haul-outs would occur for a total of 15 work days, during the first 5 days of project activities, when the contractors are mobilizing and starting use of the vibratory hammer; during 5 days when activities are occurring closest to the haul-out areas; and during 5 additional days, to include days when fill removal is occurring in Woodard Bay. It is not expected that Woodard Bay fill removal would result in seal disturbance; however, the stipulation that monitoring be conducted while this activity occurs is intended to ensure that such is the case. Monitoring of both haul-outs would be performed by at least one observer. The observer would (1) be on-site prior to crew and vessel arrival to determine the number of seals present pre-disturbance; (2) maintain a low profile during this time to minimize disturbance from monitoring; and (3) conduct monitoring beginning 30 minutes prior to crew arrival, during pile removal activities, and for 30 minutes after crew leave the site.

The observer would record incidental takes (i.e., numbers of seals flushed from the haul-out). This information would be determined by recording the number of seals using the haul-out on each monitoring day prior to the start of restoration activities and recording the number of seals that flush from the haul-out or, for animals already in the water, display adverse behavioral reactions to vibratory extraction. A description of the disturbance source, the proximity in meters of the disturbance source to the disturbed animals, and observable behavioral reactions to specific disturbances would also be noted. In addition, the observer would record:

- The number of seals using the haul-out on each monitoring day prior to the start of restoration activities for that day;
- Seal behavior before, during and after pile and structure removal;
- Monitoring dates, times and conditions;
- Dates of all pile and structure removal activities; and
- After correcting for observation effort, the number of seals taken over the duration of the habitat restoration project.

Within 30 days of the completion of the project, DNR would submit a monitoring report that would include a summary of findings and copies of field data sheets and relevant daily logs from the contractor.

We considered but rejected an expanded monitoring plan that would require DNR to conduct monitoring as described but for every day of construction. We do not believe that monitoring need be conducted at all times during this low-level activity as there is no potential for serious injury or mortality and the probability of an animal being physically injured from the equipment is extremely low if not discountable. In addition, no other marine mammal species are likely to be present within the action area, and are therefore not likely to be affected by DNR's activities. Similar to scientific research studies, when correcting for effort, the DNR should be able to adequately determine the number of animals taken and impacts of the project on marine mammals based on the proposed monitoring plan. Should extreme reactions of seals occur (e.g., apparent abandonment of the haul-out) at any time during the project, DNR will stop removal activities and consult with us. However, as described in this notice, based on previous scientific disturbance studies at NRCA, extreme reactions are not anticipated. Finally, as described

previously, funding is limited for DNR's important restoration work, requiring a balance between the level of monitoring that is necessary to adequately characterize disturbance of harbor seals and the significant funding required to implement monitoring. We feel that the proposed monitoring plan strikes the proper balance.

Estimated Take by Incidental Harassment

As described previously in this document, annual seal counts in Woodard Bay end by October. Seals utilize haul-out habitat from spring or summer until approximately October for breeding, pupping, and molting. After October, numbers of individuals at the haul-outs are expected to decline throughout the winter. From 2006 to 2009, October counts averaged 171 and ranged between 79 and 275 (Lambourn, 2010).

Under the previous IHAs, seals were monitored for 29 days during November and December of 2010 and 2011. In 2010, total peak counts ranged from 0 to 127 and averaged 52, while total peak counts in 2011 ranged from 0 to 77 and averaged 31 (Oliver and Calambokidis, 2011, 2012), confirming that seal numbers decline after October. It is unlikely that the fill removal operations taking place in Woodard Bay would result in seal disturbance, as they would be shielded by land from the harbor seal haul-outs and would have no associated vessel activity. DNR proposes that the estimated 20 days of pile and structure removal activity, as well as all fill removal activity occurring in Chapman Bay, may potentially result in incidental harassment of harbor seals. Using the average count from November-December 2010-11 (42) and the estimated number of total days of activity as described here (40) the result is an estimated incidental take of 1,680 harbor seals (40 days x 42 seals per day). We consider this to be a highly conservative estimate in comparison with the estimated actual take of 875 seals from 2010 and 231 seals from 2011, which is nonetheless based upon the best available information.

Negligible Impact and Small Numbers Analysis and Determination

We have defined ‘negligible impact’ in 50 CFR 216.103 as "...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival." In determining whether or not authorized incidental take will have a negligible impact on affected species stocks, we consider a number of criteria regarding the impact of the proposed action, including the number, nature, intensity, and duration of Level B harassment take that may occur. Although DNR’s restoration activities may harass pinnipeds hauled out in Woodard Bay, impacts are occurring to a small, localized group of animals. No mortality or injury is anticipated or proposed for authorization, nor will the proposed action result in long-term impacts such as permanent abandonment of the haul-out. Seals will likely become alert or, at most, flush into the water in reaction to the presence of crews and equipment. However, seals have been observed as becoming habituated to physical presence of work crews, and quickly re-inhabit haul-outs upon cessation of stimulus. In addition, the proposed restoration actions may provide improved habitat function for seals, both indirectly through a healthier prey base and directly through restoration and maintenance of man-made haul-out habitat. No impacts would be expected at the population or stock level.

No pinniped stocks known from the action area are listed as threatened or endangered under the ESA or determined to be strategic or depleted under the MMPA. Recent data suggests that harbor seal populations have reached carrying capacity.

Although the estimated take of 1,680 is 11 percent of the estimated population of 14,612 for the Washington Inland Waters stock of harbor seals, the number of individual seals harassed will be lower, with individual seals likely harassed multiple times. In addition, although the

estimated take is based upon the best scientific information available, we consider the estimate to be highly conservative. For similar restoration activities in 2010-11, estimated actual take was much lower (875 seals over 35 work days in 2010 and 231 seals over 21 work days in 2011).

Mitigation measures would minimize onset of sudden and potentially dangerous reactions and overall disturbance. In addition, restoration work is not likely to affect seals at both haul-outs simultaneously, based on location of the crew and barge. Further, although seals may initially flush into the water, based on previous disturbance studies and maintenance activity at the haul-outs, the DNR expects seals will quickly habituate to piling and structure removal operations. For these reasons no long term or permanent abandonment of the haul-out is anticipated. Much of the work proposed for 2012-13 consists of fill removal, which does not require in-water work or vessel support, and is largely located in Woodard Bay, which is shielded from the haul-out locations by land. The proposed action is not anticipated to result in injury, serious injury, or mortality to any harbor seal. The DNR would not conduct habitat restoration operations during the pupping and molting season; therefore, no pups would be affected by the proposed action and no impacts to any seals would occur as a result of the specified activity during these sensitive time periods.

Based on the foregoing analysis, behavioral disturbance to pinnipeds in Woodard Bay would be of low intensity and limited duration. To ensure minimal disturbance, DNR would implement the mitigation measures described previously, which we have preliminarily determined will serve as the means for effecting the least practicable adverse effect on marine mammal stocks or populations and their habitat. We preliminarily find that DNR's restoration activities would result in the incidental take of small numbers of marine mammals, and that the

requested number of takes will have no more than a negligible impact on the affected species and stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action Endangered Species Act (ESA).

There are no ESA-listed marine mammals found in the action area; therefore, no consultation under the ESA is required.

National Environmental Policy Act (NEPA)

In compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), as implemented by the regulations published by the Council on Environmental Quality (40 CFR parts 1500-1508), and NOAA Administrative Order 216-6, NMFS prepared an Environmental Assessment (EA) to consider the direct, indirect and cumulative effects to the human environment resulting from issuance of an IHA to DNR. NMFS signed a Finding of No Significant Impact on October 27, 2010. NMFS has reviewed the proposed application and preliminarily determined that there are no substantial changes to the proposed action or new environmental impacts or concerns. Therefore, NMFS has determined that a new or supplemental EA or Environmental Impact Statement is likely unnecessary. Before making a final determination in this regard, NMFS will review public comments and information submitted by the public and others in response to this notice. The EA referenced above is available for review at <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to authorize the take of marine mammals incidental to DNR's restoration activities, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: July 25, 2012.

Helen M. Golde,
Acting Director,
Office of Protected Resources,
National Marine Fisheries Service.

[FR Doc. 2012-18537 Filed 07/27/2012 at 8:45 am; Publication Date: 07/30/2012]